

WHAT IS CLAIMED IS:

SUB 4951 252 5
1. A fluorescent thin film comprising a matrix material containing as a main component a rare earth sulfide or a rare earth selenide and a rare earth element added thereto as a light emission center, said rare earth element being different from a rare earth element used for said matrix material.

10 2. The fluorescent thin film according to claim 1, wherein said matrix material contains as the main component at least one compound selected from the group consisting of a rare earth thioaluminate, a rare earth thioallate and a rare earth thioinlate.

SUB 4951 252 15
3. The fluorescent thin film according to claim 1, wherein said rare earth element used for said matrix material is an element selected from the group consisting of Y, La, Ce, Pr, Nd, Gd, Tb, Ho, and Er.

20 4. The fluorescent thin film according to claim 1, wherein said matrix material is lanthanum thioaluminate, and neodymium thioaluminate.

5. The fluorescent thin film according to claim 1, wherein said rare earth element added as said light emission center is one element selected from the group consisting of at least Ce, Eu, Tb and Tm.

428/6 90 25
6. An EL panel comprising a fluorescent thin film as recited in claim 1.

7. A process of forming the fluorescent thin film according to claim 1 by an evaporation technique, wherein:

30 at least, a rare earth metal evaporation source and a group III sulfide evaporation source with a light emission center added thereto are placed in a vacuum chamber with H₂S gas introduced therein, and

a rare earth metal and a group III sulfide material are evaporated from the respective evaporation sources to deposit a sulfide fluorescent thin film on a substrate while the
35 respective materials are combined with the H₂S gas.

ADD 1 A9 7